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Comparative Analysis on Vertical Keiretsu of Japanese Automobile Industry: Cases of Toyota, Nissan, and Mazda

도요타, 닛산, 마쓰다의 케이스를 통해서 본 일본 자동차 산업의 수직 게이레츠 비교분석

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조 우 진

Comparative Analysis on Vertical Keiretsu of Japanese Automobile Industry: Cases of Toyota, Nissan, and Mazda

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Woojin Cho

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부 위 원 장 이 영 섭 (인)

위 원 김 현 철 (인)

Abstract

Comparative Analysis on Vertical Keiretsu of Japanese Automobile Industry: Cases of Toyota, Nissan, and Mazda

Woojin Cho

International Cooperation Major
The Graduate School of International Studies
Seoul National University

The purpose of this paper is to discuss the transformation of a unique governance structure known as vertical *keiretsu* system in Japanese automobile industry since the 1990s. Through employing the concepts of institutionalization and deinstitutionalization in institutional theory, the paper attempts to describe the divergence of three Japanese automobile firms in their reactions to the pressures of breaking off the traditional vertical *keiretsu* and further to investigate the reasons behind the difference.

The case analysis of Toyota, Nissan, and Mazda based on the empirical data on each of the suppliers' associations and automaker's procurement transactions with *keiretsu* suppliers suggests that the vertical *keiretsu* was fairly preserved and even strengthened in Toyota while undergoing the gradual dismantlement in Mazda and the radical breakdown in Nissan. The disparity among the three is due to the fact that firms affected by different degrees (strong or weak) of three types of deinstitutionalizing pressures – political, functional, and social – respond accordingly to either the continuance or the discontinuance of vertical *keiretsu* network.

After the economic recession of Japanese economy in the 1990s, many Japanese firms including Nissan and Mazda experienced an overwhelming financial turmoil which suddenly exacerbated their corporate performance (functional pressure) and eventually necessitated the acquisition by their respective foreign firms (political pressure). In contrast, Toyota who quickly recovered from the recession and attained a high level of financial performance was free from the external political pressure of foreign influence in the management of its *keiretsu* system. Therefore, the overall picture of Japanese vertical *keiretsu* emphasizes the role of "functional pressure" which stands at the core of the *keiretsu* transformation.

Keywords: Vertical *Keiretsu*, Institutional Theory, Japanese Automobile Industry, Deinstitutionalizing Pressures, Divergence, Functional Pressure

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I. Introduction

1. Brief Overview of Keiretsu

Over the post-war history of Japanese economy, *keiretsu* has played a crucial role in forming an intricate inter-firm corporate network that is deeply embedded in Japan's business system. *Keiretsu* - a Japanese word for "series" or "grouping of enterprises" – is a Japanese form of inter-corporate linkage among a set of firms with close interlocking business relationships and shareholdings. Particularly, what differentiates Japanese "vertical" keiretsu system, in which vertical groups of companies are more or less independent from one another (small subcontracting firms, suppliers and equipment manufacturers) but are under the umbrella of a prime manufacturer, from vertical networks or associations in other countries is its broad cross-ownership networks and long-term relationships based on intense collaboration, "goodwill trust", information sharing, human networks, and in-group financial support (Ahmadjian and Lincoln, 2001; Aoki and Lennerfors, 2013; Kawai, 2007).

This paper addresses the transformation of the unique governance structure, so-called vertical *keiretsu* system, in Japanese automobile industry throughout the past two decades. Prior to the recession in 1990s, keiretsu has been seen as a source of competitive advantage and an industrial model of successful business practice (Dyer, 1996; Dyet and Ouchi, 1993; Lettice, Wyatt, and Evans, 2010). As a '*keiretsu*

archipelago' (Okumura, 2000), Japan has achieved a degree of advantage in the automotive industry by enjoying personnel and technological exchange within the keiretsu firms, long-term cooperation between assemblers and their suppliers, sharing of the costs and responsibilities of innovation, mutual trust and information sharing (Lee, 2004; Cusumano and Takeishi, 1991; Liker and Choi, 2006; Dyer, 1998).

As the Japanese economy continued to experience stagnation and downturn after the collapse of the bubble economy in 1990s, however, the competitive advantage and efficiency of Japanese *keiretsu* has started to be questioned. According to Ahmadjian and Lincoln (2001), the role of keiretsu system has weakened and Japanese governance structure has shifted away from the once dominant hybrid of "*keiretsu*" governance toward the "extremes of arms-length contracting and top-down administration". Dekkers and Bennett (2010) further points out the keiretsu system's lack of ability to flexibly respond to the rapid changes on the global manufacturing landscape. Therefore, the critics of *keiretsu* believe that the role of *keiretsu*, particularly vertical *keiretsu*, has ended and it is no longer a fundamental component of Japanese economy.

Within the past two decades, also called the "lost decades" (*Economist* 2009), Japanese automobile industry has undergone significant changes in regards to its governance structure. Since the recession in 1990s, increased competition and globalization of product markets has led to the reevaluation of the benefits of

maintaining vertical *keiretsu*'s traditional reliance on affiliated partners within its network. In response to the increasing demand for Westernization and globalization in the very context of Japanese economic downturn, three of the biggest Japanese automobile firms – Toyota, Nissan, and Mazda – have taken divergent paths in transforming the traditional vertical *keiretsu* that has been the characteristic of Japanese automotive industry.

As a theoretical framework, I employ institutional theory (Dacin et al. 2002; Scott, 2001; Oliver, 1992) to understand different strategic responses of Toyota, Nissan, and Mazda in responding to the pressures of breaking down a traditional *keiretsu* system and adapting a new type of *keiretsu*, a manufacturer-supplier relationship which is more similar to the Western type of governance structure focusing on complex and global network systems and is more "open, global, and cost-conscious" than the traditional vertical *keiretsu* system (Aoki and Lennerfors, 2013). I will describe how the three Japanese automobile firms respond differently to the overwhelming deinstitutionalizing pressure of opposing against the traditional vertical *keiretsu*.

2. Literature Review

Despite the extensive research that has been conducted on *keiretsu*, there has

been a degree of ambiguity and disunity in defining the term (Fujiki, 2002). Thus, while some literature attempt to approach the concept from ideological and ethical aspects (Miwa and Ramseyer, 2006; Lincoln and Shimotani, 2009), other works focus more on the practical aspects of *keiretsu* and mechanisms that constitute a *keiretsu* system (Asanuma, 1989; Cox, 2004; Lincoln and Guillot, 2009; Nishitateno, 2010). *Keiretsu* has been further discussed in diverse fields of studies, encompassing corporate governance (Allen and Zhao, 2007; Dyer, 1996), operations management (Sako, 1995), and power dependence (Kim et al., 2004).

In general, when discussing *keiretsu*, scholars usually categorize it into two different types: "horizontal" and "vertical". Horizontal *keiretsu*, also called financial *keiretsu* or Japanese *kigyo shudan*, is a conglomerate (such as Mitsui, Mitsubishi, Sumitomo, Sanwa, Fuyo, and Daiichi) covering diverse industries which is characterized by cross-shareholdings, intra-group financing, and centered on a main Japanese bank that acts as a central body to assist other companies with financial support (Morick and Nakamura, 1999; McGuire and Dow, 2009). Historically, horizontal *keiretsu* has its root in the *zaibatsu*, conglomerates which were dismantled after the Second World War but sustained as more flexible entities, so-called horizontal *keiretsu*. Since horizontal *keiretsu* still plays an important role in Japanese economy today, there have been a number of researches that delve into the effect of horizontal *keiretsu* system in Japan (Berglof and Eurico, 1994; Lincoln and Shimotani, 2009; Miyajima, 1994; Morick and Nakamura, 1999).

Vertical *keiretsu*, on the other hand, is a type of complex, multi-layered network of supply chain in which an a big manufacturer called Original Equipment Manufacturer (OEM) has deep connections with its major suppliers who are also linked to affiliated smaller manufacturers. Unlike horizontal *keiretsu* networks, in which firms are interconnected based on financial commitments, vertical *keiretsu* entails much more cooperative, long-term relationship among the affiliates (Lincoln and Gerlach, 2004). Despite the variation between the two, the "vertical" *keiretsu* and "horizontal" *keiretsu* are not mutually exclusive but rather are compatible: many members of horizontal *keiretsu* groups act as leaders of vertical *keiretsu*, such as Toyota which is an example of vertical *keiretsu* but also a member of Mitsui *keiretsu* (horizontal).

Previous research has shown that vertical *keiretsu* itself is controversial in nature, as both positive and negative roles of vertical *keiretsu* have been extensively discussed. Particularly, prior to Japanese recession in 1990s, vertical *keiretsu* has been considered a source of competitiveness and strength (Cusumano and Takeishi, 1991; Liker and Choi, 2006; Okumura, 2000), but since the 1990s, the critical view against the role of vertical *keiretsu* has started to dominate many of the scholarly works (Kawai, 2007; Kim et al., 2004; Miwa and Ramseyer, 2002). Despite the ongoing controversy, many empirical studies have shown that vertical *keiretsu* has experienced significant changes within the past two decades (Ahmadjian and Lincoln, 2000; Anderson, 2010; Aoki and Lennerfors, 2013; McGuire and Yoshikawa, 2011). Kawai (2007) and Ahmadjian and Lincoln (2000) conducted the extensive analysis of how

Toyota *keiretsu* has transformed over time. In recent works, Aoki and Lennerfors (2013), Lobo (2012), and Anderson (2010) did comprehensive, overarching comparative studies on Toyota and Nissan's vertical *keiretsu* system.

Yet, despite the presence of empirical evidences that show changes in vertical *keiretsu* in the automobile industry, earlier research lacks a concrete rationale for the phenomena and a theoretical framework for explaining why Japanese automobile firms have taken different stances in terms of their responses to the traditional vertical *keiretsu*. Therefore, I will add to the existing literature by conducting a comparative analysis on Toyota, Nissan, and Mazda's vertical *keiretsu* from a concrete theoretical and qualitative methodological framework.

II. Research Design

1. Theoretical Framework

While there are several studies conducted on *keiretsu* based on relevant empirical evidences and quantitative methodologies, there still lacks a concrete theoretical foundation for discussions on the theme of *keiretsu* (McGuire and Dow, 2009). One of the most popular theories for the existence of *keiretsu* is transaction cost theory, in which *keiretsu* alliance lowers transaction cost for its members and further provides them with inherent cost of capital advantages relative to non-members (Hill 1995; Kawai 2007). Recent discussions on the breakdown of *keiretsu* can further be explained by the theoretical framework of transaction cost economics in which Japanese governance heads more toward the Western governance style of arm's length transaction (a business deal in which buyers and sellers act on their own interests and have no relationship with each other) due to the "lower" cost of performing transactions outside of the *keiretsu* network (Ahmadjian and Lincoln, 2011). Yet, the theory cannot explain the recent divergence in which firms such as Toyota maintain the traditional vertical *keiretsu* while others such as Nissan and Mazda dismantle it (Takeishi and Noro, 2017). In order to explain differences in Toyota, Nissan, and Mazda's adaptations of traditional *keiretsu* system, I employ institutional theory as the main theoretical framework in this paper.

Definition of institutions can be complex, as they refer to the multi-faceted and durable social structures comprising "symbolic elements, social activities, and material resources" (Scott, 2001). According to North (1991), institutions are generally understood as formal and informal rules of action, interaction, and interpretations that guide and constrain decision makers, such as religion, economic systems, and legal systems. Traditionally, institutions have been described within the framework of institutionalization, in which an institution attains a stable and durable state or property by conforming to the norms and expectations of institutional environment. Yet, institutional theory is not only about stability but also about change of institutions (Dacin, Goodstein, and Scott, 2002; Oliver, 1992; Scott, 2001). Institutions are continuous and stable (Scott, 2001), but they are simultaneously subject to change, being de-institutionalized (a process by which the legitimacy of an established practice erodes or discontinues) or re-institutionalized (the replacement of institutions in which weakening of an existing institution leads to an emergence of another institutional structure).

According to institutional theory, deinstitutionalization of existing practices stems from pressures on institutionalized practices from several sources and places itself in a "broader scope of context of institutional change" (Scott, 2001). Oliver (1992) has identified three of the major sources of the pressure on institutionalized norms and practices: political, functional, and social. Political pressure refers to external sources that compel organizations to question the utility or legitimacy of a given practice or an

institution. Functional pressure has its relation to technical factors that identify problems in performance levels or functional utility associated with an institutionalized practice. Social pressure is associated with internal factors formed within the society in which social pressures such as the existence of divergent or different beliefs and practices and changes in social expectations could lead to the discontinuation of an established practice. In the context of broad environmental changes in which competitive pressures in the organization's environment increase, pressures from one or all of these sources interact with one another to trigger institutional change.

Pressures for deinstitutionalization, however, are not absolute. Whether their sources are primarily political, functional, or social in nature, pressures for deinstitutionalization do not automatically result in a disintegration of institutional norms. Rather, responses or behaviors of the entities affected by the pressures of both institutionalization and deinstitutionalization may differ according to the interpretations and actions of different actors (Dacin et al., 2002). In other words, institutional theory implies that actors take different paths in adapting to the institutional pressures – sometimes conforming to them (i.e. being institutionalized) and maintaining traditional institutions, and sometimes confronting against them (i. e. being de-institutionalized) and abolishing the established institutions (Oliver, 1992). Thus, the core concept embedded in the theory – the pressures of institutionalization and deinstitutionalization – can expound on differences between firms which are under the similar institutional pressures.

While Yoshikawa and McGuire (2008) explicitly employs Oliver's concept of institutional theory (1992) to analyze both horizontal and vertical *keiretsu* of Japanese companies, arguing that there is both "change and continuity" in Japanese corporate governance, I have chosen to focus my study on vertical *keiretsu* in Japanese automobile industry. The framework of institutional theory can explain the divergence of Toyota, Nissan and Mazda in responding to the rejection of continuing institutional pressure of maintaining the old vertical *keiretsu* since the 1990s.

2. Research Questions

The purpose of this study is to explore into the relationship among the traditional institution of vertical *keiretsu*, pressures for deinstitutionalization, and strategic responses of actors (in this case, Japanese automobile firms). Based on the theory of de-institutionalizing pressures in institutional theory, I have formulated the following two critical research questions:

(1) In response to the de-institutionalizing pressures of abolishing the traditional vertical *keiretsu* system under the environmental context of globalization and Westernization since 1990s, how did three of Japanese automobile companies – Toyota, Nissan, and Mazda – react in terms of their continuance of *keiretsu* network?

(2) Why were their strategic responses to the same pressures different? Which pressure (political, functional, social) was the most critical factor that influenced the divergence in three Japanese firms' responses or actions?

Why is Japanese automobile industry chosen for analyzing vertical *keiretsu*? First, the automotive industry has served as a catalyst of Japan's economic growth and as a crucial source of Japan's industrial competitiveness (Sako, 1996). Furthermore, the automobile industry is a representative area for observing Japanese vertical *keiretsu* through analyzing the *kyoryokukai* (supplier association) mechanisms in Japan. Last but the not the least, as the automobile industry has undergone huge corporate restructuring in the late 1990s, the impact on the vertical *keiretsu* in the industry is significant.

Then, what is the rationale for choosing those three firms? Toyota has been known for an exemplary case of *keiretsu* network, while Nissan, despite being a traditional *keiretsu* firm, has dismantled its old vertical *keiretsu* due to its inefficiency (Anderson, 2013; Dyer and Nobeoka, 2000; Kawai, 2007). Mazda is comparatively less studied in the discussion of Japanese vertical *keiretsu*, but it has also changed its *keiretsu* network by an active alliance with Ford (Takeishi and Noro, 2017). As Mazda's supplier association (Yokokai) is empirically observable, I can analyze what has happened to Mazda's *keiretsu* by examining changes in its buyer-supplier relationship.

3. Methodology

In addressing two critical aspects regarding vertical *keiretsu* – different strategic responses of Toyota, Nissan, and Mazda in maintaining traditional *keiretsu* system and reasons behind them, my research focuses on two different dimensions of vertical *keiretsu* in order to provide a concrete framework of both quantitative and qualitative methodologies: automaker-supplier relationships and transactions.

In terms of automaker-supplier relationships, I refer to *keiretsu* relationships based on equity and personnel tiers rather than long-term relationships, which are hard to measure quantitatively. Particularly, I will look at situation in the membership of Toyota, Nissan, and Mazda's supplier associations and changes in cross-shareholdings within major Japanese automobile *keiretsu* – Toyota and Nissan (Aoki and Lennerfors, 2013; Kawai, 2007). In case of Toyota and Nissan, I will also employ data of both increase and decrease in shareholdings in its keiretsu member firms during the period of 1993-2006 as an indicator of maintaining and dismantling traditional vertical *keiretsu* network, respectively (Kawai, 2007).

As for transactions between manufacturer and its suppliers in the *keiretsu* network, I will employ data on procurement of automobile parts by Japanese automakers – Toyota, Nissan, and Mazda – within the past two decades. Particularly, I will look at Nissan and Mazda's procurement sources for comparing their procurement

transactions with both suppliers that are still *keiretsu* members and those that are not. Furthermore, analyzing data on Toyota, Nissan, and Mazda's procurement ratio from their *keiretsu* suppliers, supply share of the *keiretsu* supply share, and ratio of continued and discontinued *keiretsu* suppliers, I will analyze divergence in traditional vertical *keiretsu* of three Japanese automobile companies.

My empirical analysis on automaker-supplier relationships is based on quantitative data provided by Aoki and Lennerfors (2013) regarding the situation of membership of a supplier's association in Toyota and Nissan, and I have added Mazda's figure to the overall data. According to Aoki and Lennerfors (2013), they have chosen *keiretsu* firms based on the either of the following qualifications: (1) whose sales dependence on one OEM (Original Equipment Manufacturer) was more than 40% in 1990 or 2000; or (2) more than 10% of whose share was owned by one OEM in either 1990 or 2000. For data on the membership of a supplier's association in Toyota, Nissan, and Mazda, I have looked at the following series of data books: *Toyota (Nissan, Mazda) Group no Jittai [Report on the Toyota (Nissan, Mazda) group]* edited by IRC (Industry Research and Consulting Co., Ltd.), a Japanese market research company, from 1991 to 2009 (published every other year) and *Nihon no Jidousha Buhin Kogyo (Japanese Automotive Parts Industry*) edited by Japan Auto Parts Industries Association from 1991 to 2009. Furthermore, data on cross-shareholdings in Toyota and Nissan *Keiretsu* is adapted from empirical data provided by Kawai (2007). The figure on cross-shareholdings is based on Toyo Keizai Shinposha in the years of 1992

and 2007 and several other company annual reports.

In terms of quantitative data on procurement of automobile parts by Japanese automakers, I employ the figures and data set provided by Takeishi and Noro (2017), in which they have compiled a set of panel data from reports published by IRC on 200 types of parts that each of seven Japanese automakers – Toyota, Nissan, Mazda, Honda, Suzuki, Daihatsu, and FHI – procured from their respective suppliers in Japan in three-year intervals from 1984 to 2008. Particularly, I adapted data on procurement of Toyota, Nissan, and Mazda from their respective *keiretsu* firms in order to conduct a comparative analysis on the vertical *keiretsu* of three automobile firms.

4. Hypothesis

Employing the concept of institutional change or so-called "deinstitutionalization," in which three types of deinstitutionalizing pressures affect the breakdown of an old, established institution (Oliver, 1992), I will define each pressure of deinstitutionalization in the discussion on vertical *keiretsu* of Japanese automobile industry. In this framework, deinstitutionalization refers to the dismantlement of traditional vertical *keiretsu* network (which is an established "institution") in Japanese automobile industry, and three deinstitutionalizing pressures (political, functional, and social) interact with one another to bring about the discontinuance of the vertical

keiretsu network in three Japanese automobile firms, Toyota, Nissan, and Mazda. Here, political pressure can be understood as an acquisition by foreign firms or an alliance with foreign companies. Functional pressure can be defined as the poor corporate performance of a firm. Lastly, social pressure refers to the competitive market environment which has emerged since the 1990s. Based on the very definition of the pressures of deinstitutionalization, I propose the following two hypotheses with sub-hypothesis.

- H1: Firms with *weaker pressure* (political, functional, or social pressure) will be *less likely* to experience deinstitutionalization (continuance of vertical *keiretsu*)

First hypothesis assumes that firms that are affected by a **weaker** degree of one or all of the deinstitutionalizing pressures will result in the continuance of vertical *keiretsu* network (<u>being institutionalized</u>): no acquisition by foreign firms (**weak** political pressure), good financial performance of the firms (**weak** functional pressure), and no influence by the competitive market environment (**weak** social pressure)

- H2: Firms with *stronger pressure* (political, functional, or social) will be *more likely* to undergo deinstitutionalization (breakdown of vertical *keiretsu*)

i. Firms that are affected by *stronger* ***political*** pressure will be *more likely* to experience deinstitutionalization

ii. Firms that are affected by *weaker* ***political*** pressure will be *less likely* to experience deinstitutionalization

Second hypothesis suggests that the breakdown of vertical *keiretsu* network emerges (being deinstitutionalized) in Japanese automotive firms when they hold one or all of the following conditions: a high degree of acquisition by the foreign firms (**strong** political pressure), a poor financial performance (**strong** functional pressure), and a significant influence by the competitive market environment (**strong** social pressure).

The sub-hypothesis of the second hypothesis further assumes that among three types of the pressure, **political pressure** (which is an acquisition by foreign firms) is the most critical pressure that affects the responses of the firms in either continuing the traditional *keiretsu* network or dismantling the continued practice of *keiretsu* relationship with their network of suppliers.

III. Analysis of Keiretsu in Japanese Automobile Industry

1. Transformation in *Keiretsu* Network

Keiretsu, a unique concept of Japanese interfirm networks, is often expressed by synonymous concepts such as "intercorporate alliance" (Gerlach, 1992), "relational capitalism" (Lincoln and Gerlach, 2004), and "network economy" (Imai, 1994). *Keiretsu*, a traditional Japanese economic and social network system, has generally been applied to interfirm structures of many group firms such as relationship companies (*kankei gaisha*) and related companies (*kanren gaisha*). The broad concept of *keiretsu* comprises two principal forms or types: "horizontal" *keiretsu* groups (also called "financial" *keiretsu* groups) and "vertical" *keiretsu* groups (also known as "non-financial" *keiretsu* groups). While the horizontal *keiretsu* or "financial" *keiretsu* is based on financial transactions among affiliate companies, centered around a main financial institution (a bank), the vertical manufacturing *keiretsu* is based on transactions between a core assembly maker (also called OEM) and its affiliated suppliers. Particularly, Japanese automotive industry is known for its vertical *keiretsu* system in which large-scale assemblers constitute a group that serves as a supply chain or network. Five major car manufacturers in Japan – Toyota, Nissan, Mazda, Honda, and Mitsubishi Motors – are the large-scale manufacturers that have *keiretsu* network, and following lists are some of the examples:

(1) Toyota group: Denso (a global automotive components manufacturer in which 25 percent of its shares owned Toyota Motors); Hino Motors, Ltd. (manufacturer of trucks, buses, large-sized cars); Daihatsu Kogyo Co., Ltd. (light car manufacturer); Kanto Auto Works, Ltd. (vehicle assembler); Toyota Auto Body Co., Ltd. (vehicle assembler); Toyota Kouki (engines); and Aisin Seiki Co., Ltd. (transmission cylinder heads)

(2) Nissan group: Nissan Diesel Motor Co., Ltd. (manufacturer of large-sized car such as trucks and buses); Nissan Shatai (vehicle assembly); and Calsonic Kansei

(3) Honda group: Honda R&D; Honda access; Keihin; Showa; and Yachiyo Industry, etc.

(4) Mazda group: Mazda E&T and Visteon Japan, etc.

(5) Mitsubishi group: Mitsubishi (large-sized car manufacturer, i.e., trucks and buses); Mitsubishi Heavy Industries; and Mitsubishi Electric Corporation, etc.

1-1. Historical Transformation in Vertical *Keiretsu*

Keiretsu relationships in Japan have undergone significant changes two times in recent history: during the 1990s, when the bubble economy collapsed, and during the 2000s, when the growing globalization of capital markets has led to more

competitive market society. Table 1 summarizes the overall change in vertical manufacturing *keiretsu* in the historical context. Before the 1990s, vertical *keiretsu* was characterized by its hierarchical, pyramidal structure, centered on a large industrial firm, such as Matsushita, Nippon Steel, or Toyota. During the period, vertical *keiretsu* was seen as a closer and long-term business relationship between an assembly maker and its affiliate members (parts suppliers) based on share cross-holdings, personnel exchange, and information sharing (Ahmadjian and Lincoln, 2001). Since there was a stronger emphasis on "trust" between *keiretsu* members (Sako, 1992), Japanese governance structure was often portrayed as a sharp contrast to the form of American corporate governance which focuses on "the legalistic, arm's length, and competitive relationships" (McGuire and Dow, 2005).

The 1990s, however, brought many changes to the *keiretsu* system. Japan's economic recession, together with rise of competitive market and globalization of capital markets, has led to the reevaluation of its pyramid structure in which suppliers are less flexible and responsive to global market changes and overly dependent on their *keiretsu* manufacturer. The collapse of the bubble economy in Japan had devastating effects on financial stability of many companies, including large automotive firms. Thus, firms such as Nissan and Mazda, formed strong alliances with foreign affiliates: Nissan formed a strategic alliance with Renault in 1999[1], and Mazda strengthened its

[1] Since September 2017, former Nissan-Renault alliance has expanded into Renault-Nissan-Mitsubishi alliance which is a strategic partnership formed through a

alliance with Ford in April 1996 as Ford increased its equity share in Mazda from 25% to 33.4% (Heller and Orihashi, 2003). With increase in number of alliances and influence by foreign firms, Japanese firms were under strong pressure of foreign investors to sell of shareholdings in traditional affiliates. Therefore, inter-corporate ties among and within the old *keiretsu* groups has gradually weakened.

The overall restructuring of the vertical *keiretsu* in the 1990s has transformed the traditional *keiretsu* into a new type of *keiretsu*, more open and cost-conscious network structure between the affiliates focusing on complex and global network systems in the 2000s, similar to the arms-length market-like relations in the West. In contrast to the old *keiretsu* system, in which transactions between manufacturer and suppliers is exclusive, new vertical *keiretsu* in the 2000s provides a degree of flexibility for automakers in choosing suppliers either within the vertical group or outside it in their part procurement, based on efficiency, lower-cost, and competitiveness. Thus, there is less emphasis of "trust" among *keiretsu* members in the new vertical *keiretsu*, opening a possibility for active transactions outside of the fixed supply network.

A full picture of the historical transformation in vertical *keiretsu* system has shown that there exists a paradigm shift from a closed, traditionally hierarchical *keiretsu* network to a more complex and newer type of *keiretsu* partnership among the

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cross-sharing agreement.

affiliates including a core manufacturer and its suppliers in the past two decades. In response to the compelling historical demand for reformation, firms such as Toyota, Nissan, and Mazda have faced a critical institutional pressure of opposing against the ongoing trend, which is to preserve their traditional vertical *keiretsu* since the 1990s. Therefore, I will analyze the quantitative data on *keiretsu* network of three Japanese automobile firms to observe their respective responses to the very pressures of deinstitutionalization and explore into the potential reasons behind the divergence. Through the comprehensive case analysis of Toyota, Nissan, and Mazda's dealings with their *keiretsu* network from the framework of the institutional theory, I will further disclose the effect of political, functional, and social pressures (three types of deinstitutionalizing pressures) on each of the three firms and examine differences in their dealings with their vertical *keiretsu*, employing the interpretations of the "pressures" in the particular field of Japanese automobile industry.

<Table 1> Timeline of Transformation of Vertical *Keiretsu*

	Keiretsu		
	1952- late 1980s	1990s	Since 2000
	Creation of keiretsu	Shifting toward closer cooperation among affiliates	More Complex and global network system
Context	Dismantlement of *zaibatsu* after 1945	Stronger competition within a global context, such as increase in number of alliances	Technological advancements and increase in foreign ownership ratio (shares by foreign companies)
Characteristics	Vertical *keiretsu* was a **pyramidal structure** with firms highly specialized in resources, centered around a lead company Closer and long-term sub-contracting relations were formed Emphasis on "trust" between the keiretsu members	Pyramid structure has been **weakened** and almost dismantled	**More open network structure** in which relations between the affiliates (manufacturer-supplier) are no longer exclusive (possibility of supplying to other *keiretsu* Focus on competitiveness, cost and innovation effects Less emphasis on "trust" between keiretsu firms

Sources: adapted from Daidj et. Al (2008: 114)

1-2. General Financial Background of Japanese Automobile Industry

Before proceeding to the case analysis of Japanese automobile companies, I will briefly look at the general financial background and capital market environment of three automobile firms – Toyota, Nissan, and Mazda – since the 1990s.

Figure 1 provides a general overview of net sales, ratio of ordinary profit, foreign ownership ratio of three Japanese automotive companies from 1991 to 2011 in a four-year interval. Despite the lack of available data for Mazda's net sales and the ratio of ordinary profit to net sales (profit-sales ratio) in 1991 and 1995, it portrays a drastic decrease of both net sales and profit-sales ratio in Toyota and Honda. The marked decrease in financial performance of two of the biggest Japanese automobile firms, Toyota and Nissan, can be largely attributed to the unfavorable automotive environment in Japan after the collapse of Japanese bubble economy in 1991. While Toyota's net sales quickly recovered during the period of 1995-1999 and Mazda's sales showed a steady increase during the same period, Nissan's sales showed a continuous decline from 1995 to 1999. Even though Mazda's net sales rose to a certain degree during the period, Nissan and Mazda's profit-sales ratio (0.4 and 0.6, respectively) demonstrate a substantial gap between their financial performances and that of Toyota, as Toyota recorded a profit-sales ratio of over 7%.

Improvements in Nissan and Mazda's financial performance began to emerge

in the 2000s when both firms achieved a substantial increase in both its net sales and profit-sales ratio. In 1999, when Nissan formed a strategic alliance with Renault, Carlos Ghosn implemented the so-called "Nissan Revival Plan" (NRP), in which one of its main purposes was to reduce purchasing costs by 20% over three years. As a result of the aggressive cost-cutting system, Nissan increased net sales and profit-sales ratio from 1999 to 2007. Particularly, its profit ratio, which was only 0.4% in 1999, reached 8% in 2003. In fact, Mazda and Toyota also launched their own versions of similar cost-cutting plans for part procurement in order to survive in the highly competitive global market environment (Ghosn and Ries, 2005). Mazda's increase in net sales can be hugely attributed to the impact of its "Millennium Plan" which aims for reduction of costs by 30% in five years. In particular, its dynamic increase in profit-sales ratio from 0.7% in 2003 to 4.7% in 2007 might have been due to its strategic alliance with Ford and the managerial capability of Ford-dispatched executive who assumed presidency in Mazda from June 2002 (Heller and Orihashi, 2003). As Toyota's cost-cutting strategy called "CCC21" (Construction of Cost Competitiveness for the 21st Century), which aims for 30% cost reduction in three years, has contributed to the overall corporate performance, its net sales and profit-sales ratio substantially increased in the 2000s, particularly its profit ratio reaching 13.4% by 2007.

1-3. Change in Capital Market Environment

Yoshikawa and McGuire (2008) argue that the rise of foreign ownership since the 1990s has been one of the distinct characteristics of changes in capital market environment of Japanese firms. Particularly, foreign ownership ratio has steadily increased beginning from the mid-1990s, reaching to more than one fourth of Japanese shares by March 2004.

Figure 1 suggests that the similar trend can be found in Japanese automobile industry. Toyota, Nissan, and Mazda all experienced an increase in the foreign ownership ratio from 1991 to 2011. Compared to Nissan and Mazda, Toyota's rise in foreign ownership ratio seems inconspicuous as it maintained a low level of foreign ownership (less than 10%) until 1999. In case of Nissan, it drastically increased the foreign ownership ratio from 15.2% in 19991 to 65.2% and further to more than 70% in 2007, largely due to shares of Renault which became the major shareholder of Nissan in 1999. As for Mazda, changes in the ratio were comparatively steady as the company already achieved more than 30% in 1995, mainly because of its historical alliance with Ford, and gradually increased the ratio to 50% by 2007. Thus, despite the similar increasing trend in Nissan and Mazda's foreign ownership ratio, a conspicuous difference between the two can be observed in the rapidness of the change.

<Figure 1> Financial Figures of Toyota, Nissan, and Mazda (unconsolidated and consolidated)

Toyota (unconsolidated)	1991	1995	1999	2003	2007	2011
Net sales (million ¥)	8,564,040	6,613,885	7,525,555	8,739,310	11,571,834	8,242,830
Ratio of ordinary profit to net sales	6.7%	3.8%	7.7%	10.2%	13.4%	-0.5%
Foreign ownership ratio	2.5%	5.4%	8.7%	15.1%	27.2%	25.6%
Nissan (unconsolidated)	1991	1995	1999	2003	2007	2011
Net sales (million ¥)	4,175,013	3,407,512	3,319,659	3,419,068	3,608,934	3,432,989
Ratio of ordinary profit to net sales	3.9%	-1.8%	0.4%	8.6%	4.7%	-0.2%
Foreign ownership ratio	2.7%	7.6%	15.2%	65.2%	70.3%	69.5%
Mazda (consolidated)	1991	1995	1999	2003	2007	2011
Net sales (million ¥)	-	1,842,892	2,161,572	2,695,564	3,247,485	2,325,689
Ratio of ordinary profit to net sales	-	-	0.6%	0.7%	4.7%	0.4%
Foreign ownership ratio	-	33.4%	34.0%	39.6%	50.0%	31.3%

Sources: Adapted from Aoki and Lennerfors (2013b) and company analysis report[2]

The expansion of the foreign ownership, particularly in the automobile sector in Japan, is relevant in the discussion of vertical *keiretsu* in Japanese automotive industry as these changes in foreign ownership create "political" and "social" pressures toward more "US" style corporate governance practices which are characterized by arm's-length relationships between firms (Yoshikawa and McGuire, 2008; Yoshikawa

[2] The table is made by the researcher based on the data given by Aoki and Lennerfors (2013b) and company analysis report. Mazda's data in 1991 and "ratio of ordinary profit to net sales" in 1995 was unavailable, thus left blank. Both Toyota and Nissan's data are from unconsolidated figures and Mazda's data is calculated on consolidated figures.

and Phan, 2003). Since the foreign investors are more likely to pressure Japanese firms to restructure their corporate structure during poor performance (Yoshikawa and McGuire, 2008), the increase in the foreign ownership ratio in Toyota, Nissan, and Mazda suggests the potential influence of foreign companies or owners as the main shareholders in affecting the traditional vertical *keiretsu* system in the firms.

2. Case Analysis: Toyota

Toyota's vertical *keiretsu* has been always known as a representative case of strong *keiretsu* network, which has been a major source of competitive advantage within the industry. Major Japanese automobile firms including Toyota are characterized by their "cooperative associations" (*kyoryoku-kai*), of suppliers which play an important role as a syndicate in maintaining vertical *keiretsu* connection between manufacturers and their core suppliers. Therefore, a closer observation of Toyota's supplier association and its transformation since the 1990s will provide a key insight into the recent trend in the firm's vertical *keiretsu*.

2-1. Toyota's Supplier Association

Toyota's supplier association, *Kyohokai*, was established in 1943 in order to strengthen "mutual friendship" and the "exchange of technical information" between

Toyota and its core parts suppliers. In 1996, Toyota's *Kyohokai* announced three main "purposes" of the organization: (1) information exchange between affiliated companies and Toyota, (2) mutual development and training among member firms, and (3) socializing events (Internal Toyota Document, 1996). To accomplish the stated objectives, Toyota has created three separate regional associations – Tokai Kyohokai (Aichi Prefecture where Toyota City resides), Kanto Kyohokai (for Tokyo region), and Kansai Kyohokai – which promote easier and closer connections among suppliers in each region. Table 2 portrays the changes in total number of member firms in supplier associations of each automaker – Toyota, Nissan, and Mazda. Toyota's total number of member firms in the 1990s was 180, but the number has increased to 217 by the 2000s. Thus, as for membership in *keiretsu* network, Toyota not only has maintained the level of membership but also has strengthened the affiliation by increasing the number of members that belong to its *keiretsu.*

For enhancing cooperation in its organization of *keiretsu* suppliers through the form of cooperative organizations, Toyota is not only involved with the part supplier's organization called *Kyohokai* but also has maintained an intimate relationship with *Eihokai*, an equipment and logistics supplier association which was established in 1983 for the purpose of achieving the same goals outlined by the *Kyohokai*. While many Japanese automobile firms attempted to replace traditional suppliers with newer, cost-efficient suppliers or to significantly decrease the number of supply bases in order to survive in the competitive market environment and to recover their staggering

corporate performances since the 1990s, Toyota took a completely divergent path by strengthening its vertical *keiretsu* network of supplier associations. One of the ways Toyota enhanced its supplier relationships was by loaning employees to its suppliers (called *shukko* system). Those employees who were dispatched by the firm supported the suppliers involved with its production system by educating them of Toyota's technologies, such as Kanban. Therefore, Toyota has effectively promoted active communication and the transfer of technology with its suppliers through the process of loaning employees.

Toyota has further pushed for amplifying its cooperative relationship with suppliers by establishing a new kind of alliance which efficiently incorporates new technology. Through its partnership with the equipment supplier association, *Eihokai*, Toyota invested in the suppliers' equipment and its installation. Specifically, Toyota, together with its *keiretsu* firms, established its new brake system company called ADVICS, which was established by Toyota, Aishin, Denso, Toyota Koki, and Koyo Bearing, on July 3, 2001. Through the joint investment in the brake system company, Toyota successfully has reformed its supplier's methods and updated supplier's technology, creating a strong and collaborative alliance with its *keiretsu* partners.

<Table 2> Membership of Toyota, Nissan, and Mazda's Suppliers' Association

	Toyota (*Kyohokai*, *協豊会*)	**Nissan (Nishokai, *日翔会*)**	**Mazda (Yokokai, *洋光会*)**
	Total number of member firms	Total number of member firms	Total number of member firms
1990s	180	192	177
2000s	217	170	161

Sources: Researcher's own table based on Aoki and Lennerfors (2011) and *Nihon no Jidousha Buhin Kogyo (Japanese Automotive Parts Industry*) by Japanese Automobile Association (1991 – 2009)

As for equity ties between Toyota and its *keiretsu* suppliers, Table 3 provides a list of both Toyota and Nissan's *keiretsu* firms whose cross-shareholdings with respective automaker companies have changed from 1993 to 2006. According to the empirical data, Toyota increased its equity stakes in most of the primary suppliers except Tokai Rika in which its cross-shareholding percentage exhibited only a modest decline (0.7%). All of the other *keiretsu* group companies except Denso and Koito Manufacturing showed more than two percent increase of cross-shareholdings between Toyota and its suppliers. Particularly, Toyoda Boshoku's increase in cross-shareholdings percentage is significant, as it marked more than forty percent increase (from 9.3% to 49.6%).

<Table 3> Changes in Cross-Shareholdings within Toyota and Nissan Keiretsu

(Unit: %)

Toyota *Keiretsu* Firms	1993	2006	**Nissan *Keiretsu* Firms**	1993	2006
Toyoda Gosei	41.4	43.1	Nissan Shatai	42.7	43.7
Aishin Seiki	21.7	23.2	Calsonic Corp.	33.3	41.9
Aisan Industry	31.8	35.2	Kiriu Machine	50.9	0
Denso	23.8	24.8	Aichi Machine Ind.	33.1	41.7
Koito Manufacturing	19	20	Ichiko Industries	20.8	0
Koyo Seiko	21.9	24.9	Kinugawa Rubber	27.5	20.2
Toyota Machine Works	21	24.9	Fuji Kiko	23.8	N/A
Kanto Auto Works	48.7	50.6	Nissan Diesel Motor	39.7	24.3
Toyota Automatic Loom Works	23.1	24.3	Jatoco	64.3	81.76
Tokai Rika	30.8	30.1	Ikeda Bussan	43	0
Toyoda Boshoku	9.3	49.6	Tachi-S Co.	20.3	0
Toyota Auto Body	40.2	57	Nihon Plast	26.5	0
Toyoda Engineering	21.1	25			

Sources: Adapted from Kawai (2007), Toyo Keizai Shinposha (1992, 2007), company annual reports

2-2. Toyota's Parts Procurement

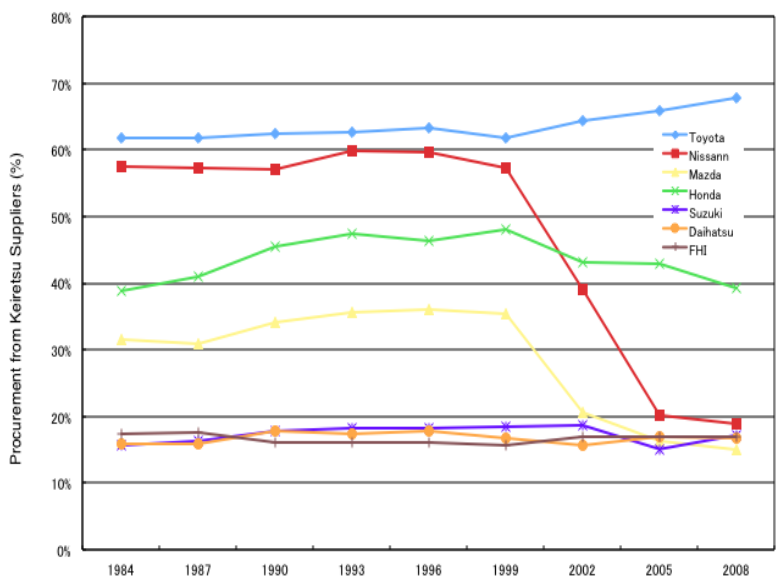
Aggregate empirical data on Toyota's supplier association and

cross-shareholdings with its core suppliers suggests that Toyota not only maintained its traditional *keiretsu* network of suppliers but also strengthened financial influence over its affiliated firms since the 1990s. Now, I will further look at how transactions between Toyota and its suppliers in the *keiretsu* network changed over time. Figure 2 presents a graph of seven Japanese automakers' procurement ratios from respective *keiretsu* suppliers from 1984 to 2008 on an unweighted average. Despite the general downward trend in Japanese manufacturers' procurement of automobile parts from their *keiretsu* suppliers over time, Toyota's graph alone manifests an upward trajectory, which increased from marginally above 60% in 1990s to approximately 68% in 2008. Toyota's figure, which is nearly 70%, is more than three times of parts procurement ratios of five other Japanese automakers including Nissan and Mazda, all of which are below 20% in 2008. Thus, empirical data on Toyota's procurement transactions with its core suppliers indicates the continuance of vertical *keiretsu* in Toyota, in that the firm has maintained and further strengthened its solid position with its *keiretsu* members within the industry.

Figure 3 further shows three particular data of seven Japanese automobile firms including Toyota, Nissan, and Mazda for three distinct periods (1984-1990, 1993-1999, 2002-2008), which are important indicators of continuance of *keiretsu* affiliation between an automaker and its suppliers. Of the seven biggest Japanese automobile companies, Toyota experienced the biggest increase in the first figure, the share of supply of the automaker's *keiretsu* supplier which increased from 35.4% in the

first period (1984-1990) to 36.4% in the second period (1993-1999) and continuously expanded to 41.8% by 2000s (third period). The conspicuous increase (6.4%) in the supply share of the firm's *keiretsu* supplier stresses that the influence of Toyota's *keiretsu* supplier on the manufacturer enlarged over time. Furthermore, the data on other two figures which denote the degree of active transactions between Toyota and its *keiretsu* suppliers both record a fair increase: automaker's procurement share increased from 36.5% to 38.6%, and ratio of parts procured from *keiretsu* suppliers demonstrated a marginal increase, from 85% to 85.6%.

<Figure 2> Parts Procurement from Keiretsu Suppliers by Seven Japanese Automakers 1984-2008



Sources: Takeishi and Noro (2017)

The overall data on procurement transactions between Toyota and its core suppliers, spanning from the 1990s to the 2000s, suggests that Toyota did not undergo the breakdown of vertical *keiretsu* system, but it rather fairly maintained its conventional relationship with its *keiretsu* members and further strengthened its *keiretsu* affiliation by expanding the network of *keiretsu* suppliers and promoting more active and closer transactions (which is more supplying of parts from *keiretsu* suppliers to their core manufacturer, Toyota) within Toyota's vertical *keiretsu* network.

<Figure 3> Keiretsu Supplier's Share and Automaker's Procurement Share and Parts Procurement Ratio by Seven Japanese Automobile Firms

		Keiretsu Supplier's Supply Share (%)	Automaker's Procurement Share (%)	Ratio of Parts Procured from Keiretsu Suppliers (%)
Toyota	1984-1990	35.4	36.5	85.0
	1993-1999	36.4	37.1	85.6
	2002-2008	41.8	38.6	85.6
Nissan	1984-1990	20.8	23.4	74.1
	1993-1999	17.7	19.3	75.8
	2002-2008	12.5	14.5	39.2
Honda	1984-1990	11.4	12.5	54.5
	1993-1999	11.5	12.3	59.5
	2002-2008	12.4	13.6	55.6
Mazda	1984-1990	10.0	12.3	39.2
	1993-1999	7.6	9.8	42.1
	2002-2008	5.8	9.2	22.9
Suzuki	1984-1990	5.7	7.5	19.6
	1993-1999	7.0	9.3	24.2
	2002-2008	7.6	11.0	27.5
Daihatsu	1984-1990	4.2	5.4	25.3
	1993-1999	4.9	6.9	28.1
	2002-2008	5.7	8.2	27.5
FHI	1984-1990	4.4	5.3	20.8
	1993-1999	3.9	5.3	22.2
	2002-2008	4.1	5.0	23.5

Sources: Takeishi and Noro (2017)[3]

[3] Takeishi and Noro compiled the IRC data from 54 parts for each period. Here, they collected

3. Case Analysis: Nissan

Before the beginning of so-called the "lost decades" in the 1990s, Nissan, like Toyota, had been known for maintaining strong relationship with its *keiretsu* suppliers within the long-established vertical *keiretsu* network in Japan. Yet, facing the significant deterioration in its corporate performance, Nissan was not able to avoid its extensive alliance with Renault, which had a substantial impact on Nissan's vertical *keiretsu* partnership with its main suppliers. Thus, a careful analysis of quantitative data on Nissan's *keiretsu* will be crucial to understanding the possibility of a changing trend in Nissan's vertical *keiretsu* affiliation.

3-1. Nissan's Supplier Association

Nissan's supplier association, *Takarakai*, was established in 1954 and was disbanded in 1991. In 1991, however, *Takarakai* merged together with *Shohokai*, Nissan's another suppliers' association mainly composed of independent parts makers, to form its suppliers' association called *Nishokai*, which has been active since the 1990s. According to the data on the membership of Nissan's suppliers' association in

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data of seven Japanese automobile firms for three separate figures. The "keiretsu suppliers' share" equals to the share of supply of the automaker's *keiretsu* supplier (calculated as the volume of supply by the automaker's keiretsu supplier to all seven automakers/the volume of supply by all suppliers to all seven automakers). The "automaker's procurement share" refers to the share of the automaker's procurement on an unweighted average for each period (= volume of the automaker's procurement/total volume of all seven automakers' procurement). Finally, the "ratio of parts procured from keiretsu suppliers" is the ratio of the number of part types in which the automaker procured from its affiliated suppliers.

Table 2, Nissan constantly maintained 192 members as the total number of registered *keiretsu* member firms throughout the 1990s. The number, however, dropped rapidly to approximately 175 in 1999 and further reduced to 170 by 2004. Table 3, which portrays a huge difference between changes in cross-shareholdings within Toyota's *keiretsu* companies and those of Nissan, also provides empirical evidences for the weakening of *keiretsu* affiliation between Nissan and its affiliated group firms. While Toyota tightened the equity share holding of most of its *keiretsu* companies as illustrated in Table 3, Nissan underwent a significant restructuring of its cross-shareholdings with its *keiretsu* suppliers in which well-known traditional *keiretsu* suppliers seceded from Nissan's vertical *keiretsu* group: Fuji-Kiko, Ichiko Industries (whose cross-shareholdings percentage decreased from 20.8% to 0%), Ikeda Bussan (whose equity percentage reduced from 43% to 0%), Tachi-S. Co (whose cross-shareholdings changed from 20.3% to 0%), Nihon Plast (who experienced an equity reduction from 26.5% to 0%), Yorozu, and Niles parts. While a few firms such as Calsonic Corporation, Aichi Machine Industries, and Nissan Shatai experienced a decent increase in its cross-shareholdings with Nissan, the overall change in Nissan's equity relationship with its *keiretsu* suppliers exhibits a dismantlement of the firm's vertical *keiretsu* structure.

Then, what triggered the sudden change in Nissan's *keiretsu* structure? Nissan's radical transformation is closely connected to its launch of NRP, or so-called "Nissan Revival Plan". In 1999, when Carlos Ghosn, the former Chief Operation

Officer (COO) of Renault, took office as Nissan's president, he asserted that Nissan's *keiretsu* had not functioned well, explaining that "… Nissan's keiretsu was not functioning, because the keiretsu management of Nissan was premature, and the performance of keiretsu suppliers was poor. So we had to change the system."[4] With the beginning of Ghosn's appointment at Nissan, he radically restructured Nissan by implementing his revolutionary management reform, "Nissan Revival Plan" (NRP) or "Turning Nissan around," in which all of Nissan's equity holdings shares, encompassing a sum of 1,394 firms, were subject to the sell-off, except for four affiliate companies including Calsonic Cansei and Jatoco (Aoki and Lennerfors, 2013: 78). With the unconventional restructuring of Nissan's equity relationship with its main suppliers (as seen in Table 3), Nissan further adopted a completely new management strategy, which is to expand volume in orders and to simultaneously promote cost reduction as much as possible. Between March 1999 and March 2004, a total of 102 companies seceded from Nissan's *keiretsu* network, and Ghosn who was an exemplary "*keiretsu* breaker" dissolved *keiretsu* partnerships with a number of other group suppliers by selling its stock in suppliers who failed to the meet certain criteria of the cost.

As a part of the NRP, Nissan further transformed its purchasing system toward a more open one by forming a new cooperative purchasing organization with Renault, called "Renault-Nissan Purchasing Organization" (RNPO) in April 2001, in which they

[4] Quotation is from *Nikkei Bijinesu* (Nikkei Business), November 13, 2000, page 30

procure more effectively materials employed directly and indirectly in production. As a result of the implementation of the new supplier selection system by Renault-Nissan team under the RNPO, Nissan dismantled the traditionally exclusive *keiretsu* network and expanded its potential suppliers to include globally competitive suppliers selected by Renault and promoted the cost-effective system for parts procurement from the suppliers. Changes in Nissan's suppliers will be discussed in detail in the next section.

3-2. Nissan's Parts Procurement

Now, I will look at empirical findings on Nissan's procurement transactions with its *keiretsu* suppliers. According to Figure 2, the graph of Nissan's procurement ratio from its affiliated suppliers from 1984 to 2008 displays a rapid, significant shrink from nearly 60% in the 1990s to less than 20% in 2008. To be more specific, the ratio remained marginally under 60% until 1999 and then decreased to 19% in 2005. Particularly, the sharp decline emerged in 1999, when the agreement was signed in Tokyo between Nissan and the French automobile manufacturer Renault, leading to the Renault-Nissan alliance. The agreement resulted in an equity investment of Renault in Nissan, in which Renault holds a 44.3% stake in Nissan, while Nissan owns 15% of Renault's shares (each firm has a direct interest in the results of its partner). The considerable influence by the foreign firm, Renault, had a critical impact on Nissan's traditional *keiretsu* as Nissan was forced to assimilate several changes including the

drastic downsizing in the number of traditional suppliers, adopting the new purchasing system based on cost/benefit analysis, which is similar to the Western-style purchasing policy, and active inclusion of non-*keiretsu* suppliers into more open network.

The data in Figure 3 attests to the breakdown of the traditional vertical *keiretsu* in Nissan as all three of the firm's ratios in the figure experienced the biggest decline over the past decades: *keiretsu* supplier's supply share decreased to a large degree from 20.8% to 12.5%, which is more than 8 percent decrease; automaker's (Nissan) procurement share was reduced from 23.4% to 14.5% (nearly 10% decline); and the most conspicuous decline is founded in the ratio of parts procured from *keiretsu* suppliers, which went down from 74.1% to 39.2%. The huge discrepancy between Toyota and Nissan in changes of the transactions with their *keiretsu* suppliers in Figure 3 emphasizes the fact that each took a completely opposite stance in the preservation of the old vertical *keiretsu* relationship with suppliers: for Toyota, its strong ties with *keiretsu* suppliers was maintained and even strengthened; but, for Nissan, the role of *keiretsu* suppliers weakened and almost became non-existent.

Then, in what way did Nissan change its vertical *keiretsu* system? Ghosn's radical cost reduction policy through the NRP and the establishment of the RNPO were carried out due to the very fact that the cost of Nissan's procurement from its *keiretsu* suppliers was 20% to 25% higher than that of Renault (Ghosn and Ries, 2005: 106). Therefore, in order to reduce costs as low as possible for the survival in the

competition of the globalized market, Nissan had to open up its *keiretsu* network to foreign suppliers. In fact, even before the implementation of the NRP, Nissan had already invited twenty-two foreign parts makers, including the Japanese subsidiaries of two American companies, Garrett Turbo Inc. and TI Japan Ltd., to join its network of one hundred and seventy suppliers (which sums up to 192 members). The expansion of the suppliers' network continued further in the 2000s as more foreign suppliers began to join Nissan's network. As illustrated in Figure 4, the ratio of the *keiretsu* suppliers decreased significantly from 1996 to 2008 (as the ratio of the "discontinued keiretsu" decreased over time), but the suppliers at overseas increased to a large degree, from 1% in 1996 to 7.6%. Another striking fact that can be observed in the figure is a sudden increase of "new suppliers," which accounts for 14.2% of total suppliers in 2008. Therefore, it can be inferred that many former suppliers who had *keiretsu* relationships with Nissan were replaced by new suppliers who were chosen by Renault according to the cost/benefit analysis, including competitive suppliers abroad.

Table 4 provides another important finding regarding the change in Nissan's *keiretsu* network, which is the increase of cross-membership in the supplier associations of rival manufacturers. Historically, Nissan's suppliers were not allowed to do business with Toyota and vice versa, though they were able to supply their parts to other smaller automakers. Since the 1990s, however, the transactions between Nissan's suppliers and other big Japanese automakers such as Toyota and vice versa began to increase. Based on the data in Figure 4, transactions between Nissan and both Toyota's

keiretsu suppliers and other automakers' *keiretsu* suppliers including Honda augmented remarkably from 1996 to 2008. After the NRP was launched, Toyota's well-known *keiretsu* suppliers, such as Denso and Aisin, joined the Nissan's suppliers' association, *Nishokai*. Therefore, the new supplier network of Nissan assimilated both globally competitive foreign suppliers and those of other Japanese automakers since the 1990s, calling for the end of the firms' old *keiretsu* system in the new era.

<Figure 4> Nissan's Procurement Sources from 1996 to 2008

	1996	1999	2002	2005	2008
Inhouse	9.3%	9.1%	5.3%	4.7%	5.0%
Continued Keiretsu	14.3%	15.0%	16.1%	17.8%	16.7%
Discontinued Keiretsu	38.2%	37.3%	35.6%	27.8%	22.5%
Keiretsu as of 1996	52.6%	52.4%	51.6%	45.6%	39.2%
Toyota's Keiretsu	1.4%	1.7%	2.2%	5.3%	5.3%
Honda's Keiretsu	0.3%	0.4%	0.5%	1.0%	3.0%
Other Keiretsu	0.1%	0.1%	0.1%	0.4%	0.6%
Other Automekrs' Keiretsu	1.8%	2.2%	2.8%	6.7%	8.9%
Independent	35.4%	34.8%	35.8%	36.5%	39.2%
Overseas	1.0%	1.6%	4.5%	6.6%	7.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Existing Suppliers	100.0%	99.3%	94.1%	91.6%	85.8%
New Suppliers	0.0%	0.7%	5.9%	8.4%	14.2%

Sources: Takeishi and Noro (2017)[5]

[5] Here, the "continued Nissan's keiretsu suppliers" are those that maintained keiretsu relationships with Nissan from 1996 to 2008. The "discontinued Nissan's keiretsu suppliers" refer to those that had keiretsu affiliation with Nissan in 1996, but lost the relationship by 2008.

4. Case Analysis: Mazda

As mentioned earlier, when analyzing Japanese vertical *keiretsu* system in Japanese automobile industry, Toyota and Nissan emerge as representative examples of firms with *keiretsu* network of suppliers. Mazda's *keiretsu*, however, is comparatively less studied in most of the scholarly works. Yet, Mazda's case holds significance in understanding the change in Japanese *keiretsu* system because of its unique position as a *keiretsu* firm and the potential impact of its alliance with the foreign firm on its historical relationship with affiliated suppliers. Therefore, I will observe the recent trend in Mazda's *keiretsu* network by examining its supplier association and transactions with *keiretsu* suppliers.

4-1. Mazda's Supplier Association

While Mazda organized a cooperative association called *Toyukai* in 1952 composed of twenty first-tier machining firms, it organized the similar suppliers' association called *Yokokai*, a cooperative association of vendors, only in May 1981, in which forty members of *Toyukai* joined. As seen in Table 2, Mazda's *Yokokai* had a total number of 177 members in the 1990s, comprising 60 members in the area of *Nishi-Nihon* (literally translated as "western Japan," but in fact referring to the district near Hiroshima where Mazda is located), 61 members in the *Kanto* area, and 56

Lastly, the "new suppliers" are those that began to supply parts to Nissan after 1996.

members in the *Kansai* area. The number, however, began to decrease to a degree in the 2000s and reduced to 161 members in total. Thus, in comparison with Nissan, suppliers' association of Mazda took a similar pattern of declining phenomena.

The noticeable contraction of Mazda's network of supplier's association during the period of 1990s and 2000s can largely be attributed to the strengthening of Mazda's alliance relationship with its foreign counterpart, Ford. In contrast to Nissan who did not have any strategic relationship with Renault before their alliance in 1999, Mazda's alliance with Ford has its historical root in 1969 when a joint venture of Ford, Mazda, and Nissan was organized in order to produce automatic transmissions in Japan, and in 1979, Ford finally acquired 25% of Mazda's stock and became Mazda's largest stockholder. In the midst of careful discussion of continuing their alliance ties or not in the 1990s, in late 1993, Ford and Mazda decided to expand and strengthen their alliance. Following their public announcement in 1993, in April 1996, Ford's equity share in Mazda increased from 25% to 33.4%, and several Ford-dispatched executives were appointed as Mazda's president for consecutive years afterwards (Heller and Orihashi, 2003: 125). Therefore, the influence of foreign owners on Mazda's management altered the direction of its traditional affiliation with *keiretsu* suppliers and its closed, fixed transactions with the core suppliers solely within the network.

4-2. Mazda's Parts Procurement

Figure 2 provides a more vivid picture of the changing trajectory of Mazda's relationship with its *keiretsu* suppliers. Although Mazda maintained the ratio of its parts procurement from the *keiretsu* suppliers marginally above 30% in the beginning of 1990 and even reached 36% in 1996, the ratio began to rapidly decline in 1999 and finally hit as low as 15% in 2008. One observation is that the downward graphs of Nissan and Mazda's parts procurement from 1984 to 2008 are very much identical, showing that both automakers suddenly and significantly changed the relationships with their respective core suppliers. Yet, there is a difference in the degree of change between the two. Compared to Nissan whose procurement ratio decreased by more than 40% over the two decades, Mazda experienced a relatively less radical disintegration of its *keiretsu* affiliation during the period.

Similar observations can be made in Figure 3 which provides Mazda's procurement share and *keiretsu* suppliers' supply share from 1984 to 2008. As portrayed in the figure, Mazda experienced the overall curtailment of all three ratios, which indicate a negative tendency toward the continuance of the firm's vertical *keiretsu*: *keiretsu* suppliers' supply share decreased from 10% to 5.8%; automaker's procurement share reduced from 12.3% to 9.2%; and ratio of parts procured from its *keiretsu* suppliers also experienced a fair degree of shrinkage (39.2% to 22.9%). Yet, compared to the profound picture of weakening in Nissan's *keiretsu*, Mazda's

transformation is quite moderate.

<Figure 5> Mazda's Procurement Sources from 1996 to 2008

	1996	1999	2002	2005	2008
Inhouse	6.7%	6.5%	6.3%	7.1%	7.4%
Continued Keiretsu	18.2%	18.5%	18.6%	20.5%	18.2%
Discontinued Keiretsu	15.6%	14.6%	14.8%	10.1%	6.3%
Keiretsu as of 1996	33.8%	33.1%	33.4%	30.6%	24.5%
Toyota's Keiretsu	8.7%	9.4%	11.7%	12.8%	12.5%
Honda's Keiretsu	1.3%	1.4%	1.4%	1.7%	2.0%
Other Keiretsu	1.7%	1.3%	1.1%	1.0%	0.6%
Other Automekrs' Keiretsu	11.7%	12.2%	14.2%	15.5%	15.1%
Independent	45.7%	44.9%	42.3%	36.8%	41.9%
Overseas	2.1%	3.2%	3.8%	10.0%	11.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Existing Suppliers	100.0%	97.3%	95.3%	86.8%	83.0%
New Suppliers	0.0%	2.7%	4.7%	13.2%	17.0%

Sources: Takeishi and Noro (2017)[6]

Therefore, it can be argued that the role of *keiretsu* suppliers declined substantially at both Nissan and Mazda, but Mazda's dismantlement of vertical *keiretsu* exhibited a weaker degree compared to Nissan. As illustrated in Figure 5 above, Mazda's traditional *keiretsu* gradually exposed itself to dissolution as the firm opened

[6] Here, the "continued Mazda's keiretsu suppliers" are those that maintained keiretsu relationships with Mazda from 1996 to 2008. The "discontinued Mazda's keiretsu suppliers" refer to those that had keiretsu affiliation with Mazda in 1996, but lost the relationship by 2008. Lastly, the "new suppliers" are those that began supplying parts to Mazda after 1996.

up its *keiretsu* network to replace some of existing suppliers with new suppliers outside of the network including foreign suppliers (overseas) and those that belong to other rival Japanese automotive firms such as Toyota.

IV. Discussion and Findings

The empirical findings in the previous section of case analysis show the overall picture of divergence in the vertical *keiretsu* of Japanese automobile industry from the early 1990s to the late 2000s: Toyota maintained and further strengthened its capital and business ties with *keiretsu* suppliers (the process of institutionalization), while Nissan and Mazda both drastically changed relationships with their respective *keiretsu* firms by cutting off their capital and business ties with their affiliated suppliers, with Mazda exhibiting a weaker degree of change compared to Nissan (the process of deinstitutionalization). Based on the above findings regarding the vertical *keiretsu* system of Toyota, Nissan, and Mazda, I will employ the qualitative framework of institutional theory to discuss outcomes of my proposed hypothesis:

H1: Firms with *weaker pressure* (political, functional, and social pressure) will be *less likely* to experience deinstitutionalization (continuance of vertical *keiretsu*)

- TRUE

Toyota's case supports the first hypothesis by proving that the firm maintained its traditional vertical *keiretsu* system due to weak political and functional pressures to transform it. Based on the quantitative data in Figure 1, despite its financial distress during the period of 1991-1995, its sales and profit quickly recovered immediately

after 1995, achieving a high degree of corporate performance beginning from the late 1990s. Therefore, its stable financial performance, which also can be translated as "weak functional pressure," contributed to Toyota's ability to continue its business under the strong ties with its *keiretsu* suppliers. Furthermore, as previously mentioned, Toyota maintained the low level of foreign ownership, which is less than 10%, until 1999. Even in 2011, compared to other two firms, Nissan and Mazda, Toyota's foreign ownership ratio was very low, recording only 25%. This is due to the fact that Toyota did not experience any acquisition by foreign interest ("weak political pressure"). Thus, the firm was relatively free from the influence of the foreign firms or investors in managing its historical business relationship with *keiretsu* suppliers. Overall, Toyota did not experience deinstitutionalization, which is a continuance of *keiretsu*, because of its weak functional and political pressures for change.

H2: Firms with *stronger pressure* will be *more likely* to undergo deinstitutionalization (breakdown of vertical *keiretsu*)

i. Firms that are affected by *stronger* ***political*** pressure will be *more likely* to experience deinstitutionalization

ii. Firms that are affected by *weaker* ***political*** pressure will be *less likely* to experience deinstitutionalization

- TRUE

The second hypothesis can be supported by the case analysis of Nissan and Mazda. In contrast to Toyota who was affected by weak functional and political pressures for the institutional change, both Nissan and Mazda experienced the dismantlement of old vertical *keiretsu* (deinstitutionalization) because of strong political and functional pressures. With the onset of economic depression, also known as the "lost decade", Mazda and Nissan's corporate performance decreased significantly. Nissan's productivity and financial problems turned for the worst in the 1990s, incurring seven years of annual losses in eight years of operation from 1992 to 1999. With its debt climbing up to $22 billion in 1999, the firm managed to stay profitable only for one year between 1991 and 1999. Similarly, Mazda's corporate performance worsened since the 1990s as its operating profit (a percentage of net sales) turned negative in 1993, suffering from the increasing amount of debt. As a result, Nissan and Mazda were taken over by foreign firms, Renault and Ford respectively. Therefore, with their poor financial performance ("strong functional pressure") and acquisition by the foreign companies ("strong political pressure"), both firms were under the strong pressure to cease its traditional *keiretsu* network which was a source of impediment for them to achieving a high level of financial performance.

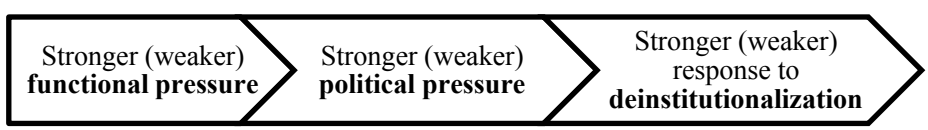
The comparative case analysis of Nissan and Mazda, however, brings another important finding regarding the vertical *keiretsu* system of Nissan and Mazda. Despite the similar trend of discontinuance of vertical *keiretsu* in Nissan and Mazda, which can also be translated as "being deinstitutionalized", a deeper analysis of Mazda's *keiretsu*

shows that Mazda exhibits a lesser degree of change in its *keiretsu* relationship compared to Nissan. Then, why does the difference occur?

In fact, the difference between Nissan and Mazda in the degree of dismantlement (deinstitutionalization) supports my sub-hypothesis that firms with stronger political pressure are more likely to experience deinstitutionalization and those with weaker political pressure are less likely to be deinstitutionalized. Nissan had a comparatively **stronger *political pressure*** (a stronger acquisition or a bigger influence by a foreign firm) that led to the larger degree of dismantlement of *keiretsu* than Mazda. For Nissan, the influence by Renault on the firm was conspicuous as Renault actively implemented radical changes in Nissan's management including the sell-off of most of its share of related *keiretsu* firms. The degree of radical change can also be observed in Nissan's foreign ownership ratio in Table 1 as the ratio drastically increased from 15% in 1999 to 65% in 2007. In contrast, while Mazda's foreign ownership ratio is high compared to Toyota, the change in the ratio is not as radical as that of Nissan because it already had a high ratio (33%) in the early 1990s due to its historical alliance relationship with Ford before the 1990s. Furthermore, unlike Renault-Nissan alliance, Ford-Mazda cooperative relationship did not result in a conspicuous influence by Ford on Mazda's management. Therefore, Mazda experienced a weaker degree of breakdown of vertical *keiretsu* than Nissan due to its weaker political pressure.

The overall case analysis of three Japanese automobile firms – Toyota, Nisan, and Mazda – supports that my initial two hypotheses regarding the relationship

between acquisition by foreign firms, corporate performance, and discontinuance of traditional vertical *keiretsu* are true. The comparative case analysis of Nissan and Mazda further confirms my sub-hypothesis that political pressure affects the degree of deinstitutionalization to a large degree. Yet, more careful analysis of the impact of the deinstitutionalizing pressures on each firm's *keiretsu* continuance provides a new finding that a degree of acquisition or influence by the foreign firms (political pressure) is influenced by a degree of corporate financial instability (functional pressure). While Toyota's high level of financial performance led to the non-acquisition by the foreign interest, Nissan and Mazda's financial distress gave rise to their alliance with their respective foreign firms. Therefore, the new finding can be summarized in a following diagram:



V. Conclusion

1. Concluding Summary and Implications

In the wake of increasingly competitive market environment of the global economy, Japanese firms have not been able to evade the powerful pressure of corporate restructuring for survival since the beginning of the economic recession in the 1990s. Within the context of corporate transformation, the long-held vertical *keiretsu* system was challenged due to its seemingly inefficient role in contributing to the corporate performance, particularly that of Japanese automobile companies. The case analysis of Nissan Motor Corporation and Mazda Motor Corporation exhibit the phenomenon of weakening in their vertical *keiretsu* network, with Mazda's change portraying a lesser degree compared to that of Nissan. Yet, the case analysis of Toyota Motor Corporation shows a reverse outcome, which is the maintenance and strengthening of Japanese vertical *keiretsu* network.

Therefore, this paper attempts to employ the framework of institutional theory in order to delve into the phenomena of divergence in Toyota, Nissan, and Mazda's dealings with the traditional vertical *keiretsu* system by answering the first research question regarding the responses of three Japanese automobile firms to the de-institutionalizing pressures of abolishing the traditional vertical *keiretsu* system:

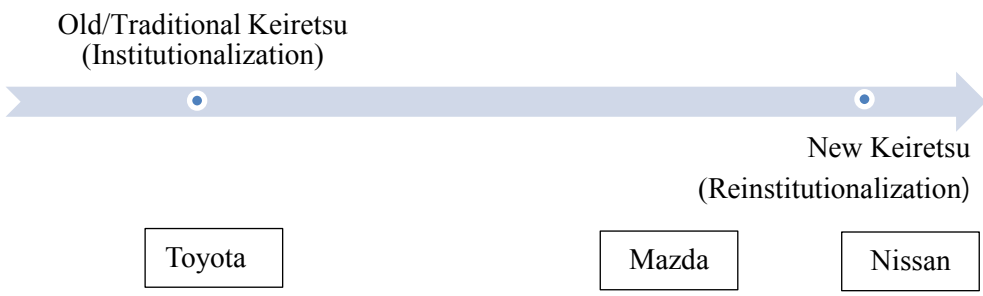
Toyota maintained and further strengthened its *keiretsu* system (institutionalization) while Nissan and Mazda dismantled the traditional vertical *keiretsu* network with differing degrees.

In regards to the second research question which explores into the reasons behind the divergence and the most critical pressure that impacted the divergence, I have come to a conclusion that Toyota was able to maintain its vertical *keiretsu* (trend of institutionalization) because of its stable financial performance (**weak functional pressure**) and no acquisition by any foreign company (**weak political pressure**), while Nissan and Mazda both dismantled the vertical network with their *keiretsu* suppliers due to their financial instability (**strong functional pressure**) and apparent acquisition by their respective foreign firms, Renault and Ford (**strong political pressure**), with Nissan experiencing a comparatively larger *political pressure* (bigger influence by a foreign firm) that leads to a bigger degree of dismantlement of *keiretsu* system than Mazda. While both political pressures and functional pressures play significant roles in affecting the vertical *keiretsu* of all three Japanese firms, the closer analysis suggests that functional pressure is the most critical pressure that leads to political pressure, eventually leading to the particular changes in vertical *keiretsu* system of Japanese automobile companies.

The overall picture of *keiretsu* system in Japanese automotive industry portrays a **re-institutionalizing** transition from a traditionally closed, inflexible

network of supplier to a more open, cost-conscious *keiretsu* system ("new" *keiretsu* as a contrast to the "old" or "traditional" *keiretsu*), as in Figure 6. Despite the variation in the degrees, all three Japanese firms are in the huge paradigm of *keiretsu* transformation since the 1990s, and further exploration into the ongoing change will be an important task for many scholars and practitioners in Japanese academia.

<Figure 6> Graph of Keiretsu Paradigm: Re-institutionalization of Toyota, Nissan and Mazda



Sources: Figure Made by Researcher

There are several implications of my research. First, as discussed in the diagram above, despite the apparent divergence in the responses of three actors (Toyota, Nissan, and Mazda) to the dismantlement of traditional vertical *keiretsu*, they are in the context of ongoing transition from a closed, inflexible network of suppliers to a new *keiretsu* system which is more open and cost-conscious network of suppliers. Moreover, as *keiretsu* transformation is an ongoing phenomenon, it will be helpful to look into

more recent data of *keiretsu* network in Japanese firms. Particularly, as Ford sold the remaining shares (little over 2%) to Mazda in September 2015, ending the capital relationship while remaining strategic partners, there exists a possibility for a new trend in the *keiretsu* network of Mazda. Lastly, vertical *keiretsu* is not limited to automobile firms but can be found in many other Japanese firms including electronics companies. As changes in corporate governance and institutional transition with the emergence of globalization are not limited to Japanese context of *keiretsu*, exploring into the domestic vertical network of firms and global contexts of institutional change would be others areas of important research in the future.

2. Limitations and Future Research

As for the limitations of the research, my paper concerns only the narrow definition of the vertical *keiretsu*. As the term "*keiretsu*" itself is ambiguous and its definition too extensive, I mainly focus on the *keiretsu* relationship between OEM (Original Equipment Manufacturer) and its first-tier suppliers who are in the main transactional relationship with the OEM. While the analysis of procurement transactions between manufacturer and its first-tier suppliers can be helpful to track the change in Japanese vertical *keiretsu* network, supplier associations are the organizations that not only include the first-tier suppliers but also second and third-tier suppliers within its network. Therefore, looking solely at supplier associations of the automobile firms for analyzing vertical *keiretsu* can be limited. Studying relations

between manufacturer and smaller-sized second- and third-tier suppliers is also one of the crucial challenges in the future study.

Furthermore, the present paper mainly deals with the overall structural change in which the impact of foreign ownership or foreign governance affects the *keiretsu* governance of Japanese automobile firms including Nissan and Mazda. Yet, besides the structural impact of foreign companies such as Renault and Ford on Japanese firms, in order to explore into the changes in *keiretsu* network of Japanese automobile companies, it will be important to discuss the inside dynamics within Toyota, Nissan, and Mazda in their decision making, particularly in the field of governance structure. While I attempt to categorize the "political" pressure as the acquisition of or influence by the foreign firm due to its very definition as an external force or source that "compel organizations to question the utility or legitimacy of a given institution" (Oliver, 1992), it will be helpful to analyze the pressure of the politics within the governance structure of the firms.

Finally, correlation between the factors needs to be explained more fully. Particularly, the discussion of how the competitive market environment (I define it as "social" pressure) affects the financial environment of companies is subtle and limited to a degree. Therefore, in my future research, I need to study more carefully the factors that affect vertical keiretsu, in particular reconsidering the relationships between the market environment, financial performance, and political dynamics within the firms.

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국문초록

도요타, 닛산, 마쓰다의 케이스를 통해서 본 일본 자동차 산업의 수직 게이레츠 비교분석

조우진

서울대학교 국제대학원

국제학과 국제협력 전공

본 논문의 목적은 1990년대 이후 일본의 독특한 거버넌스 구조인 수직 게이레츠가 일본 자동차 산업에서 어떻게 변화하였는지에 대해 논의하고자 한다. 본고는 제도화 이론의 제도화와 탈제도화라는 개념을 토대로 일본 자동차 기업들이 전통적인 수직 게이레츠를 중단 시키려는 탈제도화라는 압력에 대해 보인 상이한 반응에 대해 서술하며 나아가 왜 그 차이가 있었는지에 대해 살펴본다.

도요타, 닛산, 마쓰다의 서플라이어 협회의 데이터와 각 기업의 계열(게이레츠) 서플라이어와의 부품조달 거래의 자료가 시사하는 바는 수직 게이레츠 시스템이 도요타에서는 유지될 뿐 아니라 강화되는 양상 (제도화)을 보인 반면 마쓰다의 수직 게이레츠는 점차 해체되고 닛산은 급격하게 게이레츠가 붕괴하는 모습 (탈제도화)을 보였다. 이러한 차이(다이버젼스)는 각

기업이 수직 게이레츠 시스템을 유지 또는 해체시키려는 선택에 있어서 정치적, 기능적, 그리고 사회적 압력으로 분류되는 세가지 탈제도화 압력에 영향을 받는 정도(강한 영향 또는 약한 영향)에 차이가 존재했기 때문이다.

1990년대에 일본 경제가 경험한 경기침체 이후 닛산과 마쓰다와 같은 기업들은 극심한 재무적 상황으로 인해 급격하게 기업실적이 악화(기능적 압력)되었고 결국 외국 기업들에 의한 인수 또는 기업들과의 전략적 제휴(정치적 압력)로 이어졌다. 반면, 경기침체에서 재빨리 회복하며 높은 수준의 재무적 성과를 달성한 도요타는 게이레츠 시스템을 운영하는데 있어서 외부에서 오는 외국기업의 정치적인 압력 또는 영향에서 자유로웠다. 따라서 일본 자동차 산업의 수직 게이레츠를 종합적으로 판단할 때 게이레츠 변화에 있어서 “기능적” 압력이 핵심적인 역할을 수행했다고 볼 수 있다.

주요어: 수직 게이레츠, 제도화 이론, 일본 자동차 산업, 탈제도화 압력, 차이(다이버젼스), 기능적 압력

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